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TREATMENT OF INITIAL CASES OF CLUB-FOOT.

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The first question of importance that arises in the discussion of this subject is, when shall treatment be begun in a child born with a club-foot? I am asked this question very frequently. My answer is: Begin the treatment as soon as possible, *i. e.*, as soon as the child nurses properly, and there are no important digestive disturbances. The importance of beginning early treatment lies in the fact that the foot grows more rapidly at this time that at any other, and also that the bones, while cartilaginous at birth, will soon be osseous, and the deformity will then be much harder to correct. The treatment required in most of these infantile cases is mechanical, while in a few, operative measures seem indicated.

At this early period much can be done by the hand. Several cases of cure by the hand alone, in mild grades of club-foot, have been reported. But this measure should be looked upon as an aid, and somewhat in the light of massage, to keep up nutrition and strength of the part, rather than as curative in itself.

In the way of mechanical measures we have many kinds of braces and several forms of bandages. Of the large number of braces that have been devised, many, if not most of them, can be examined with interest only from an

Read before the Ohio State Med. Society at the Annual Meeting June 28, 1893. Published in the transactions of the same Society.

presented by the author

historical stand point. The tendency at present is toward extreme simplicity in the make of braces. Orthopedic surgeons, who still devise complicated braces, with many screws, buckles, straps, etc., belong to a past age. Of the several forms of bandages, plaster-of-paris undoubtedly holds first place. Schreiber, in his work on Orthopedic Surgery, says: "In the new born, of course, it can not be a question of complicated apparatus and bandages." And further on, he says: "The objection to the plaster bandage, that it interferes with active and passive movements, does not hold, for the bandage is changed every eight to fourteen days, when an opportunity is given for bettering the position of the foot by passive manipulations." Edmond Owens, F. R. C. S., in his work on Surgical Diseases of Children, says, in speaking of this subject: "After the foot has been for about half an hour in the strained position insured by the plaster, discomfort seems to have worn off. It is not so, however, when a child is being treated by a Scarpa's shoe. In that case the improvement is obtained chiefly through the localized pressure of narrow straps — a pressure which creates a constant irritation, and which, causing a chafe or sore, demands a vexatious discontinuance of treatment. With the gypsum bandage, the pressure is evenly distributed over the foot in the corrected position, and with due care no sore should occur. * * * * The plaster-of-paris method enables one to treat the club-foot of a tender infant with security and success, and without the expense of a mechanical apparatus requiring daily attention." Bradford and Lovett speak favorably of gypsum in this connection. At the Hospital for Ruptured and Crippled, children in arms are treated by this method, the bandage being changed every two weeks. In private practice, where it may be desired to push the treatment, and where instructions are more fully carried out, the bandage may be changed twice a week. And here is where massage and shaping the foot by the hand may be made effective. Between the time of

removing the plaster from a club-foot and the application of a new bandage, several hours or even a day may be allowed to elapse, and during this time active massage and the shaping of the foot by the hand should be frequently carried out. This massage improves the nutrition, keeps up the muscular development, and aids greatly in the cure of the deformity. By this method, children born with extreme club-foot, where the inside of foot lay against the tibia, I have seen so far improved in four to six months that the foot could be brought to nearly the normal position with but little force and without apparent discomfort to the child. In the infantile cases, the shortened muscles are but a weak resistance, and their division at this early age is not especially to be recommended, nor is it ordinarily required, except in a few of the worst cases. But when the child is old enough to walk, the deformity should be so far overcome that the patient is permitted to walk on the soles of his feet, and should this not have been accomplished by mechanical means, then an operation for the complete correction of the deformity is demanded before permitting ambulation. The cutting of the fascia in the sole of the foot and the section of the tendo Achillis is all that is required in these cases to complete the correction of deformity. But the child will need a retentive apparatus, to be worn for probably two or more years; this retentive appliance is the walking brace inside the shoe. The most satisfactory inside walking brace is the one devised by Taylor, of New York.

I would call attention to the fact that the brace is simply a retentive apparatus, being applied after the deformity is corrected by other means. It is true that Dr. Taylor has permanently cured several moderately severe forms of club-foot by the use of the brace alone, but the method requires considerable skill, much time, and great persistency. This leads me to enter a strenuous protest against the indiscriminate sending of club-feet to brace-makers, usually leaving the entire treatment in their hands.

Cure by them is very unusual, even in the mild cases, and in severe cases it is out of the question. The brace-makers in Cleveland and elsewhere nearly all use braces attached to the outside of the shoe. Many of these outside braces do not in any way tend to overcome the equinos deformity, and for the cure of the varus deformity depend on the rigidity of the leather. In a new shoe, for a few weeks, it holds the foot in fairly good position, but before the shoe is one-third worn out it has become warped, allowing the foot to return to its old position. Further than this, when the shoe is worn out, the patient requires a new brace, while with a brace having a metal sole plate, and worn inside, it can be used until any number of shoes are worn out.

The time during which treatment must be continued varies somewhat. Infantile cases require the foot to be maintained in a corrected position for a matter of two, three, or more years, before the tendency to relapse disappears. In older children, though it is harder to get the feet into a normal position, yet, when this is accomplished, they require to be thus held a much shorter time. A girl, eleven years old, for whom I corrected the deformity by an operation, was only obliged to wear braces four months, finding that the cure was permanent by that time. As a remnant, left after a thorough treatment of club-foot, we may have a condition existing known as "pigeon toe." This impediment often exists only as a primary condition, *i. e.*, the child having no other evidence of deformity, and when thus existing may be recognized as the mildest form of talipes. It is often very difficult to cure. Building up the outside of the front of the shoe (not the heel) is often quite successful in correcting the deformity. Braces attached to the feet, and passing upward to a pelvic band with a coil-spring, acting to rotate the feet outward, has been used with success. Within the last two years, Dr. William Barton Hopkins, of Philadelphia, has devised a heel-plate, which he claims is quite

successful in the cure of pigeon-toe. It consists of a swivel, with incline planes working on rollers, and acted upon by a spring. The weight of the child on its heel forces the toes outward, the rollers running down the incline planes; on raising the heel the spring forces the plate back to its original position, and it is ready for the next step. Dr. H. Augustus Wilson, of Philadelphia, also spoke well of this brace at the last meeting of the American Orthopedic Association, which was held in New York City, in September, 1892.